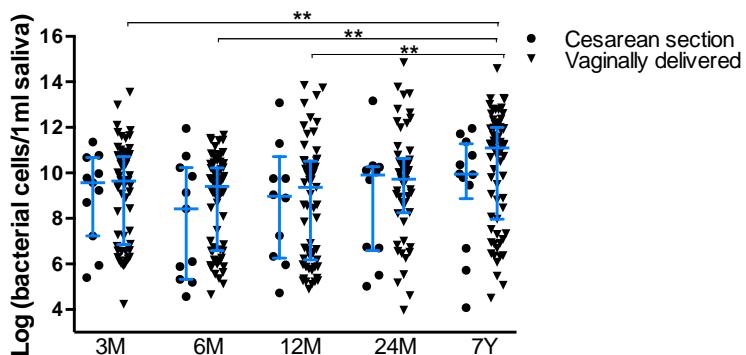


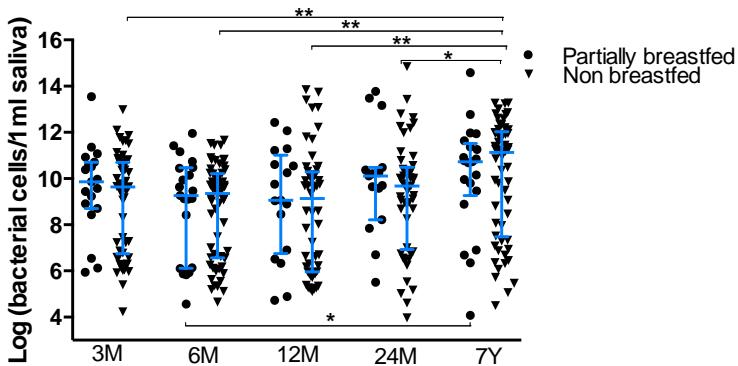
1 **SUPPLEMENTARY INFORMATION**

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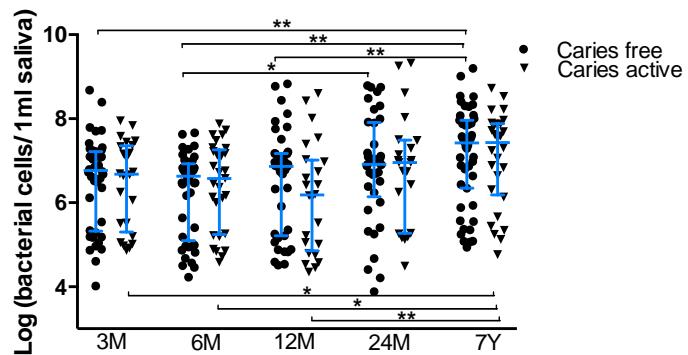
a)



b)

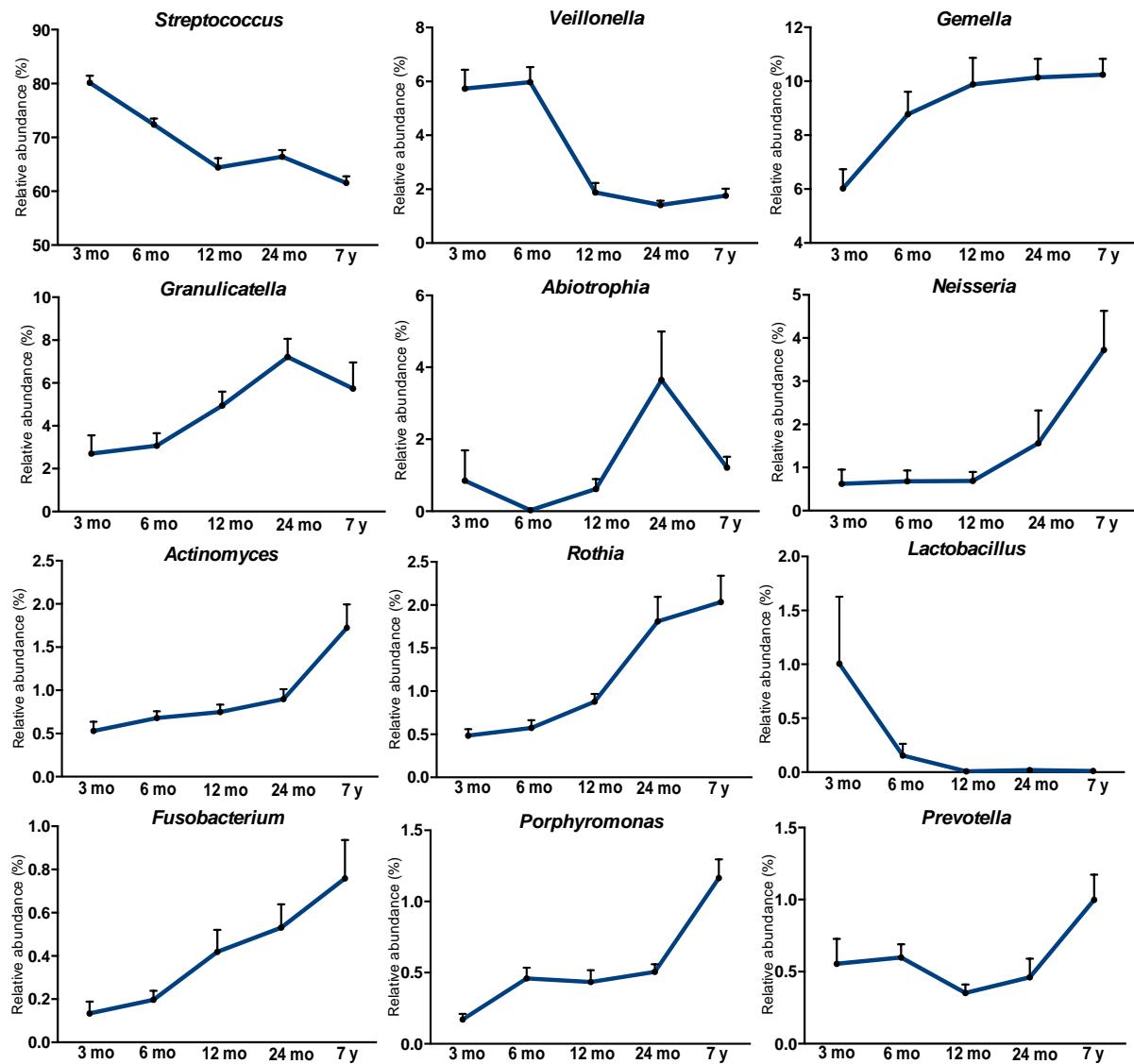


c)



6 **Fig. SI1.** Bacterial load of the total microbiota in infant saliva samples. Bacterial density using
7 salivary samples that were obtained at different time points until 7 years of age, was determined by
8 qPCR using universal primers targeting 16s rDNA bacterial gene. Figures are showing bacterial
9 density depending on the mode of delivery a), partial breastfeeding until 12 months of age b) and
10 dental caries status c). Data are presented with median with interquartile ranges. Delivery mode: 3
11 months ($N_{VD}=62$; $N_{CS}=11$), 6 months ($N_{VD}=72$; $N_{CS}=11$), 12 months ($N_{VD}=59$; $N_{CS}=10$), 24 months
12 ($N_{VD}=56$; $N_{CS}=10$) and 7 years of age ($N_{VD}=68$; $N_{CS}=12$); Partial breastfeeding at 12 months: 12
13 months ($N_{nBF}=52$; $N_{BF}=17$), 24 months ($N_{nBF}=50$; $N_{BF}=16$) and 7 years of age ($N_{nBF}=59$; $N_{BF}=21$);
14 Caries status: 3 months ($N_{CF}=40$; $N_{CA}=26$), 6 months ($N_{CF}=43$; $N_{CA}=31$), 12 months ($N_{CF}=37$;
15 $N_{CA}=26$), 24 months ($N_{CF}=35$; $N_{CA}=24$) and 7 years of age ($N_{CF}=45$; $N_{CA}=30$). M=months; Y=years.
16 (*p <0.05, **p<0.01; Mann-Whitney U-test).

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19 **Fig. SI2.** Oral microbiota development through time. Plots show the relative abundance of dominant
20 bacterial genera at 3, 6, 12, 24 months and 7 years of age.

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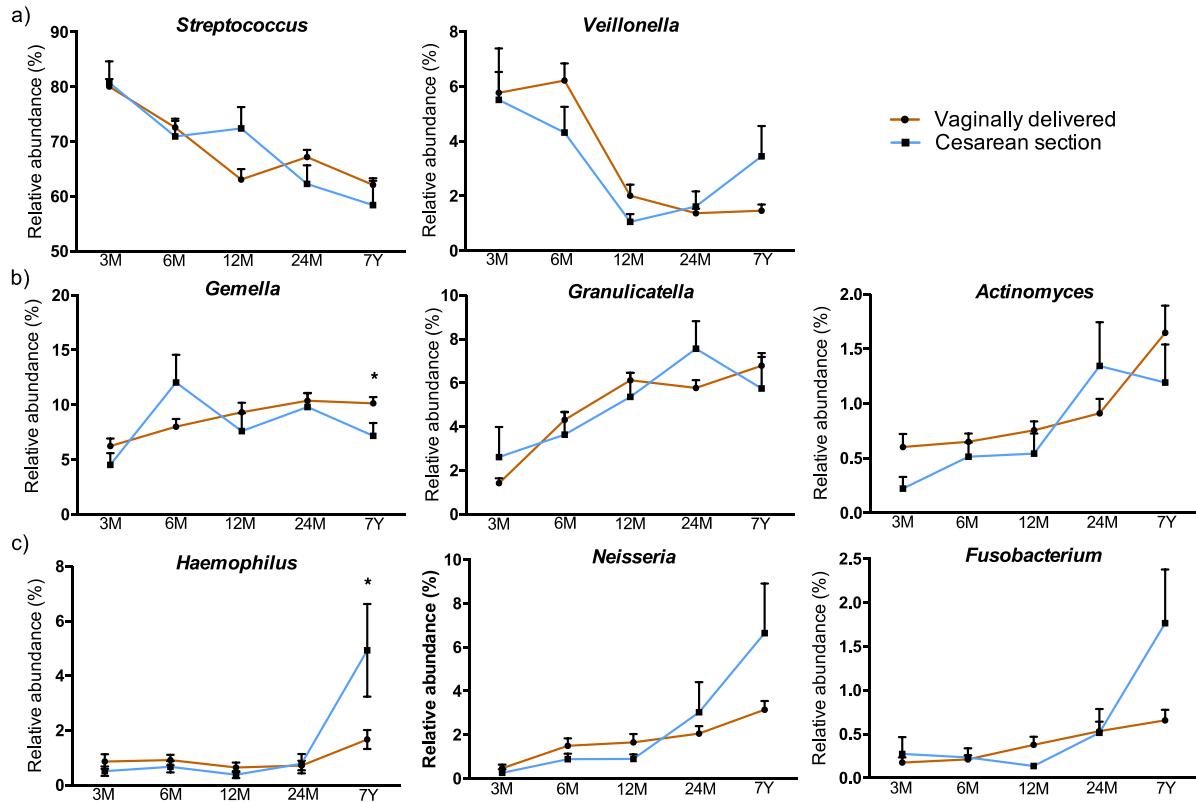
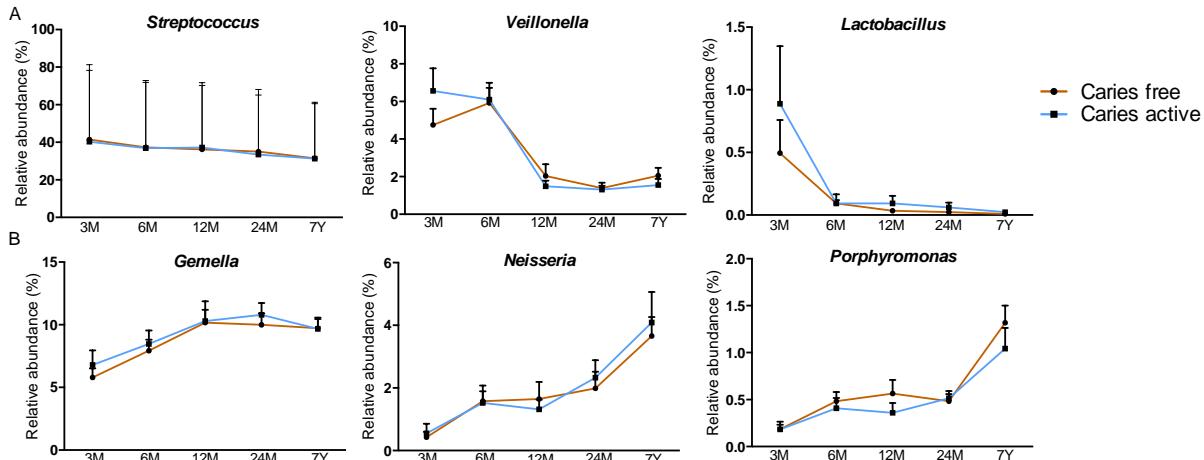


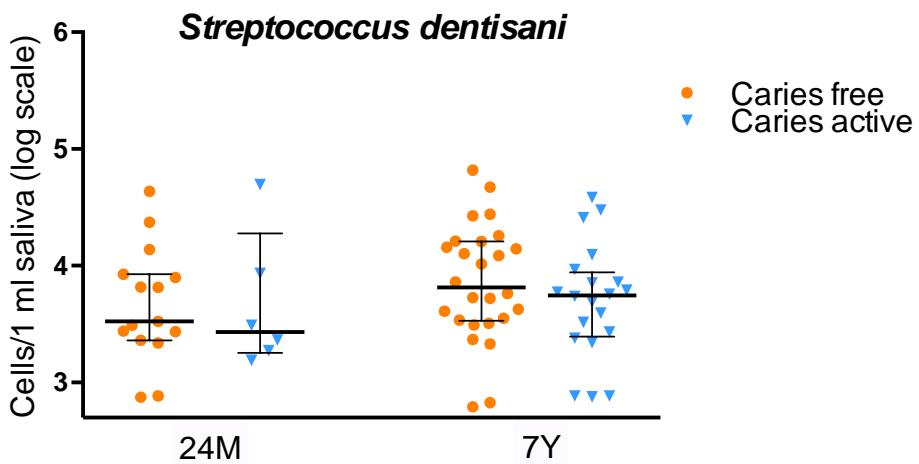
Fig. SI3. Microbiota composition of the most dominant bacterial genera in children delivered vaginally or through caesarean section. a) Genera considered as early colonizers. b) Genera considered to “Constantly increase” are already present at 3-6 months of age, at >1%, and they are increasing with time. c) Bacterial genera considered as “Late colonizers”, present at 3-6 months of age but below 1% of abundance and significant increase after 12 months of age. Plots are showing the relative abundance of dominant bacterial genera, as determined by Illumina sequencing of 16S rDNA gene, in saliva samples collected at 3 months ($N_{VD}=62$; $N_{CS}=11$), 6 months ($N_{VD}=72$; $N_{CS}=11$), 12 months ($N_{VD}=59$; $N_{CS}=10$), 24 months ($N_{VD}=56$; $N_{CS}=10$) and 7 years of age ($N_{VD}=68$; $N_{CS}=12$); M=months; Y=years. (* $p < 0.05$; Mann-Whitney U-test).

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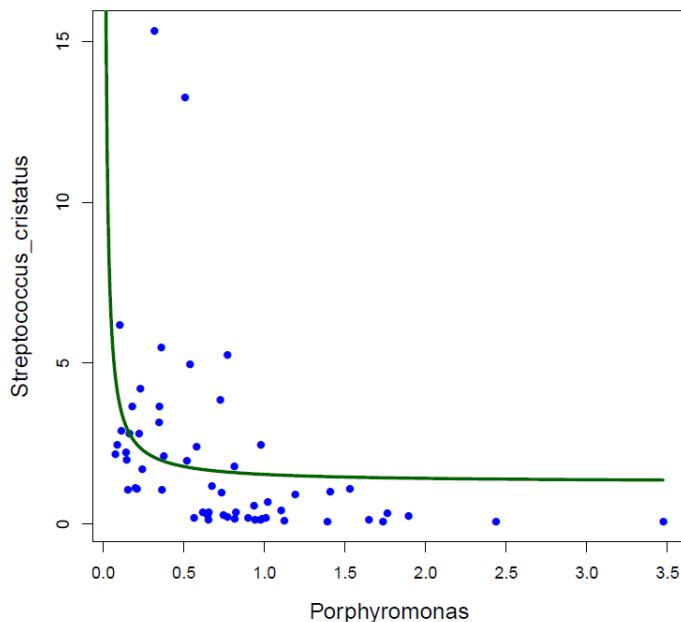
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38 **Fig. SI4.** Microbiota composition of the most dominant bacterial genera in children developing dental
39 caries and children staying caries-free until 9 years of age. a) Genera considered as early colonizers. b)
40 Genera that are constantly increasing through the age. Plots are showing the relative abundance of
41 dominant bacterial genera, as determined by Illumina sequencing of 16S rDNA gene, in saliva
42 samples collected at 3 months ($N_{CF}=40$; $N_{CA}=26$), 6 months ($N_{CF}=43$; $N_{CA}=31$), 12 months ($N_{CF}=37$;
43 $N_{CA}=26$), 24 months ($N_{CF}=35$; $N_{CA}=24$) and 7 years of age ($N_{CF}=45$; $N_{CA}=30$). CF: caries free; CA:
44 caries active; M=months; Y=years. (* $p < 0.05$; Mann-Whitney U-test).

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53 **Fig. SI5.** *Streptococcus dentisani* levels in infant saliva samples determined by qPCR quantification.
54 Detection limit was established $>2 \times 10^2$ cells/ml saliva. Data are presented with median and
55 interquartile ranges. 24 months (24M): $N_{CF}=15$; $N_{CA}=6$; 7 years (7Y): $N_{CF}=26$; $N_{CA}=19$.

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60 **Fig. SI6.** Correlation between *Streptococcus cristatus* and *Porphyromonas* spp in children's salivary
61 samples. Scatterplot shows the relative proportions of the two bacteria, which approximate a
62 hyperbolic regression ($p=0.057$), suggesting potential antagonism between the two taxa. Samples with
63 0% proportion were removed from the analysis.

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69 **Table SI1. Accumulative antibiotics intake during the first two years of life.**

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Patient code	Antibiotics courses (age in months)
1	Phenoxycephalothin (9), Phenoxycephalothin (10), Amoxicillin (11), Phenoxycephalothin (22)
2	Phenoxycephalothin (7), Phenoxycephalothin (18)
3	Erythromycin (9), Phenoxycephalothin (13), Loracarbef (17)
4	Phenoxycephalothin (9), Ampicillin (10), Phenoxycephalothin (20), Amoxicillin (21)
5	Phenoxycephalothin (3), Amoxicillin (3), Amoxicillin (10), Amoxicillin (13), Flucloxacillin (15), Amoxicillin (15), Amoxicillin (19), Amoxicillin (24)
6	Phenoxycephalothin (10), Phenoxycephalothin (12), Phenoxycephalothin (23)
7	Phenoxycephalothin (21), Benzyl-penicillin and Phenoxycephalothin (23)
8	Phenoxycephalothin (8), Amoxicillin (9) Phenoxycephalothin (16)
9	Phenoxycephalothin (6), Amoxicillin (7), Amoxicillin (10) Amoxicillin (11), Phenoxycephalothin (19), Amoxicillin (21), Amoxicillin (22)
10	Bactrim (6), Furadantin (6-11, as prophylaxis), Phenoxycephalothin (20)
11	Phenoxycephalothin (2), Amoxicillin (3), Phenoxycephalothin (13), Amoxicillin (13)
12	Ampicillin (11), Erythromycin (11), Amoxicillin (14), Erythromycin (17), Erythromycin (19)

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